

Notice of Allowability

Application No.

09/859,561

Examiner

Anh-Vu H Ly

Applicant(s)

STANWOOD ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed May 16, 2001.
2. ☒ The allowed claim(s) is/are 1-20 and 23-24 renumbered as 1-22.
3. ☒ The drawings filed on 02 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 08/21/01; 08/29/02
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Richard E. Campbell on March 11, 2005.

The application has been amended as follows:

In The Claims

21. (Canceled).
22. (Canceled).
23. (New) A computer-readable storage medium storing instructions that when executed by a computer cause the computer to perform a method for allocating bandwidth in a broadband wireless communication system, wherein the wireless communication system includes a plurality of customer premise equipment (CPE) in communication with associated and corresponding base stations, and wherein the base stations maintain uplink and downlink sub-frame maps representative of the bandwidth allocations in the uplink and downlink communication paths, the method comprising:
 - (a) determining whether there is sufficient available bandwidth to individually poll a selected CPE;

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(b) if sufficient bandwidth is determined to be available in step (a), determining whether there are either unpolled inactive CPEs present or unpolled active CPEs requesting to be polled, else proceeding to step (e);

(c) polling a selected CPE by allocating bandwidth to the CPE in the uplink sub-frame map;

(d) continuing to individually poll other selected CPEs by repeating steps (a) – (c) until it is determined in step (a) that there is insufficient available bandwidth to individually poll the CPEs;

(e) initiating a multicast and broadcast polling process;

(f) determining whether any individual CPE polls were initiated in step (c);

(g) if no individual CPE polls were initiated in step (c), terminating the method, else awaiting individual bandwidth requests from the CPEs polled in step (c);

(h) receiving a bandwidth request from a selected CPE; and

(i) initiating a bandwidth allocation process and allocating bandwidth in the uplink sub-frame map for the selected CPE that transmitted the bandwidth request received in step (h).

24. (New) An apparatus for allocating bandwidth in a broadband wireless communication system, wherein the wireless communication system includes a plurality of customer premise equipment (CPE) in communication with associated and corresponding base stations, and wherein the base stations maintain uplink and downlink sub-frame maps representative of the bandwidth allocations in the uplink and downlink communication paths, comprising:

a means for allocating bandwidth which performs the steps of

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(a) determining whether there is sufficient available bandwidth to individually poll a selected CPE;

(b) if sufficient bandwidth is determined to be available in step (a), determining whether there are either unpolled inactive CPEs present or unpolled active CPEs requesting to be polled, else proceeding to step (e);

(c) polling a selected CPE by allocating bandwidth to the CPE in the uplink sub-frame map;

(d) continuing to individually poll other selected CPEs by repeating steps (a) – (c) until it is determined in step (a) that there is insufficient available bandwidth to individually poll the CPEs;

(e) initiating a multicast and broadcast polling process;

(f) determining whether any individual CPE polls were initiated in step (c);

(g) if no individual CPE polls were initiated in step (c), terminating the method, else awaiting individual bandwidth requests from the CPEs polled in step (c);

(h) receiving a bandwidth request from a selected CPE; and

(i) initiating a bandwidth allocation process and allocating bandwidth in the uplink sub-frame map for the selected CPE that transmitted the bandwidth request received in step (h).

Allowable Subject Matter

2. Claims 1-20 and 23-24 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art does not teach or fairly suggest the steps of:

(a) determining whether there is sufficient available bandwidth to individually poll a selected CPE;

(b) if sufficient bandwidth is determined to be available in step (a), determining whether there are either unpolled inactive CPEs present or unpolled active CPEs requesting to be polled, else proceeding to step (e);

(c) polling a selected CPE by allocating bandwidth to the CPE in the uplink sub-frame map;

(d) continuing to individually poll other selected CPEs by repeating steps (a) – (c) until it is determined in step (a) that there is insufficient available bandwidth to individually poll the CPEs;

(e) initiating a multicast and broadcast polling process;

(f) determining whether any individual CPE polls were initiated in step (c);

(g) if no individual CPE polls were initiated in step (c), terminating the method, else awaiting individual bandwidth requests from the CPEs polled in step (c);

(h) receiving a bandwidth request from a selected CPE; and

(i) initiating a bandwidth allocation process and allocating bandwidth in the uplink sub-frame map for the selected CPE that transmitted the bandwidth request received in step (h).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Varma et al (US Patent No. 6,275,497 B1) discloses method and apparatus for controlling communication channels using contention and polling schemes.

Ruszczyk et al (US Patent No. 5,615,212) discloses method, device and router for providing a contention-based reservation mechanism within a mini-slotted dynamic entry polling slot supporting multiple service classes.

Sugita et al (US Patent No. 6,693,891 B1) discloses communication control method.

Sugaya et al (US Patent No. 6,567,386 B1) discloses polling control method.


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2667 3/14/08